



# Danthonia

Botanic Gardens  
and National Herbarium

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NEWSLETTER OF THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION

## New Network in the Greater Brisbane Region

*Julia Playford, Centre for Conservation Biology, University of Queensland*

A new forum for plant conservation has been set up in the Greater Brisbane area. It is designed to aid the transfer of scientific information to organisations involved in revegetation and rare plant reintroduction. It includes representatives from community groups, local government, and state government departments and scientists from universities, CSIRO, Department of Environment and Heritage, and Department of Primary Industries.

The information transfer between research institutions and groups doing revegetation and rare plant reintroduction has been lacking. There is a large body of research, particularly being conducted by postgraduate students, which is not being made widely available. It is either unpublished or published only in scientific journals. This forum is intended to bridge this gap. We will be meeting once a month to listen to a brief talk by a scientist and then to discuss the implications of their research to

revegetation and reintroduction programs.

The forum was set up by Gordon Guymier (Queensland Herbarium) and Julia Playford (the University of Queensland) through the Centre for Conservation Biology at the University of Queensland. We have held a preliminary meeting with interested parties.

The objectives of the group are outlined below:

- Increase information flow between forum members;
- Exchange of scientific information as a basis for plant conservation;
- Production of scientific pamphlets relevant to plant conservation for members of the forum;
- Provision of scientific advice on recovery plans for native species;
- Development of protocols for plant re-introduction and revegetation.

The forum meetings are open to representatives of community groups and government bodies and scientists. At our first meeting David Halford (Qld Herbarium)

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## EDITORIAL

December sees a new editor taking over from Lyn Meredith and Iris Philp - a lot to live up to! I'm Deborah Edwards, with a background from accounts to conservation: having a lifelong love of flora and fauna, I always come back to conservation in one way or another. This includes membership of the Society for Growing Australian Plants, working with a Greening Australia Farm Forestry team, and 16 months with the Australian Heritage Commission. I also love working with people and words, so to be with the ANPC, and *Danthonia* editor, combines these three admirably!

Unfortunately we are losing co-founder and National Coordinator, Mark Richardson, who is heading for hotter, drier Alice Springs to become Curator, Botany at the new Desert Wildlife Park and Botanic Gardens. He'll be sadly missed by staff of both ANPC and the Australian National Botanic Gardens, yet at the same time we hope he enjoys the new position.

As usual we have a range of articles and reports, including those from the rapidly growing regional groups. Thank you to all the contributors for coping with the changeover of editors, and getting your articles in so promptly.

We'd like to start including information about your projects for which you'd like help. You never know what help you might get from other members! So keep your information rolling in. And if anyone has been to any event you

think others would like to know about, feel free to send in a report.

May you all have a Merry Christmas and a happy New Year, and safe driving if you're travelling.



## ANPC Advisory Committee

Dr David Aldous  
Dr Tony Brown  
Dr Mick Brown  
Mr John Gardner  
Mr Stephen Harris  
Ms Katrina Jenz  
Mr Ed McAlister  
Ms Margaret Moore  
Prof Henry Nix  
Dr Bob Parsons  
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## Danthonia

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will be speaking about the plant recovery plan process in Queensland. Each meeting will result in the production of an information sheet which the representative of each group will distribute to their members.

The forum has a number of topics to be discussed in the next twelve months. Two of these topics are discussed below.

Trevor Stanley (Qld Herbarium) will discuss breeding biology of weed species such as *Asparagus* and how this impacts on weed removal in revegetation sites. Since *Asparagus africanus* is a successful invader over a relatively large area, a study of the characteristics of regeneration from seed was used to explain the success of the species as a weed in Australia. The research Trevor conducted also indicated the potential for use of the biological characteristics of a species to improve control.

I will discuss genetics of rare species, as is conducted in our laboratory at the University of Queensland. Population genetic theory provides an expectation that rare plants will exhibit low species level variation compared to more common species and low population and individual variation due to the effects of random genetic drift and inbreeding in isolated populations. This reduction in variation may result in reduced species survival. We will discuss the significance of this information for the long-term survival of species under recovery plans.

The forum has been created

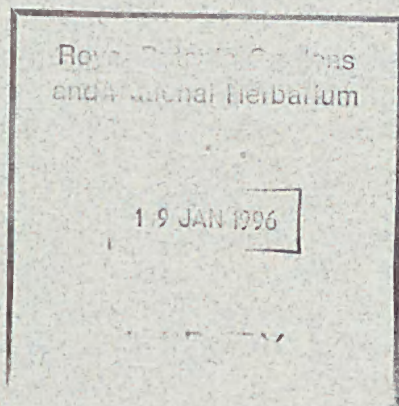
at a very appropriate time. Queensland's first recovery team will be meeting a few days after the forum to discuss *Austromyrtus gonoclada*, the angle-stem myrtle. The genetic studies on this species show that it does not conform to the population genetic expectations. Although it shows significant reduction in fecundity, that is very limited seed production and no seedling establishment, it does not show lowered allozyme variation in comparison with other rare and common species of *Austromyrtus*. The recovery team are including conservation genetics and the maintenance of diversity as one of their priorities in conservation of the species, as well as site rehabilitation and management.

We believe that localised discussion groups such as this forum will provide useful information to people doing revegetation and rare plant re-introduction in particular regions. They ensure that those doing research are able to provide specific information to people working on re-planting schemes and that the research that is needed will be passed back to the scientists.

For further information, contact Julia Playford on:

Phone: (07) 8365 2645

Fax: (07) 8365 1699.



## A Huon Pine Story

Alison Shapcott, Parks and Wildlife Commission of the Northern Territory.

Huon pine is a Temperate Rainforest tree species endemic to the river catchments of the southwest of Tasmania. It is a species of cultural significance due to its timber and the colourful history of its overexploitation and its association with the conservation battles of Tasmania's Franklin and Gordon rivers. Huon pine (*Lagarostrobos franklinii* (Hook. f. (Quinn)) is extremely slow growing and long-lived with trees 2000 years old recorded (Francey et al. 1984). It is a member of the Podocarpaceae which dominates the conifers of the Southern hemisphere and contains some of the longest-lived species of trees. Whilst much of the Huon pine population has been protected by World Heritage listing, significant areas have not been reserved or protected and are under persistent threats from mining, logging, hydroelectric schemes and increased fire regimes.

A study of the population ecology and population genetics of Huon pine was undertaken as part of the National Rainforest Conservation Program through the Tasmanian Department of Parks Wildlife and Heritage (as it was then called) to determine if the reserved areas of Huon pine adequately conserved the genetic variation exhibited in the species. The study would also



identify areas which should be protected or included in reserve systems, and investigate the long term viability of Huon pine populations.

Huon pine is thought to reproduce synchronously (mast years) across its distribution approximately once in every 7 years when massive quantities of seed are produced (approx. 50000 seeds per square metre under a typical tree (Shapcott 1991)). Even in a mast year (as studied) only 30% of the population of a size capable of reproducing actually produced cones (Shapcott et al. 1995). However, some sites had significantly greater or lesser percentages of trees producing cones. It is mostly a dioecious species with monoecious trees (with both male and female cones) occurring in approximately 3% of the reproducing population (Shapcott et al. 1995). Generally the ratio of male to female trees was 1:1 but again some populations differed significantly with some populations dominated by male or female trees (Shapcott et al. 1995). Huon pine is also known to regularly reproduce vegetatively.

The Huon pine is always associated with drainage systems, mostly rivers and creeks. Its seeds can potentially be transported great distances downstream by water as they can remain floating and still viable for periods in excess of one month (Shapcott 1991). The potential for dispersal away from watercourses or upstream is, however, extremely limited as seed falls directly beneath the tree and none were found even one tree height distance from parent trees (Shapcott 1991). The only potential dispersal vector

known is the Green Rosella (*Platycercus caledonicus*), some of which were observed feeding on seeds and scattering branchlets beneath the tree.

Genetic diversity based on six enzyme loci was fairly low with most variation being found within populations (Shapcott 1991a). The most isolated sites were, however, significantly different from the rest of the sites (Shapcott 1991a). (Most of these isolated sites are currently unprotected). Allelic frequencies within most sites (20 out of 32) deviated significantly from Hardy-Wienberg equilibrium expectations and had high fixation indices: both these results indicate high levels of effective inbreeding (Shapcott 1991a). Greater effective inbreeding did not necessarily reflect isolation from potential geneflow from other sites (Shapcott 1991a).

The Huon pine's biology appears to have enabled it to persist at sites for very long periods. This study revealed one site (Mt Read, the site of highest known altitude) which was distinctive from all other sites in every way. Over 50% of the site was surveyed, and only male trees were recorded, comprising 45% of all plants surveyed (Shapcott et al. 1995). Over 90% of Huon pine individuals were genetically identical (Shapcott 1991a). Trees at this site do not grow tall and vegetative reproduction is very obvious. The site was genetically closest to its nearest neighbouring site on the Stanley River (Shapcott 1991a). Gene flow to the Mt Read site can only occur by seeds or vegetative material arriving via some active dispersal vector such as the Green

Rosella. Even given its dispersal the chances of survival are extremely low. For example, germination rates were found to be very low, establishment very slow and seedlings vulnerable (Shapcott 1991). These results combined suggest that the population at Mt Read is composed primarily of clones from one or a few individuals and that it has maintained itself vegetatively for an extremely long time. Studies are underway to date the population eg Barbetti et al. (1993).

#### References:

- \* Barbetti M, Bird T, Dolezal G, Taylor G, Francey R, Cook E and Peterson M (1993). Radiocarbon variations from Tasmanian conifers: First results from Late Pleistocene Holocene logs. *Radiocarbon* 34(3), 806-817.
- \* Francey RJ, Barbetti M, Bird T et al. (1984). Isotopes in tree rings. Division of Atmospheric Research Technical Paper no. 4 CSIRO Australia.
- \* Shapcott A (1991). Dispersal and establishment of Huon pine (*Lagarostrobos franklinii*). *Papers and Proceedings of the Royal Society of Tasmania* 125, 17-26.
- \* Shapcott A (1991a). Studies in the Population Biology and Genetic Variation of Huon Pine Tasmanian (*Lagarostrobos franklinii*). *NRCP Technical Report Number 4*. National Rainforest Conservation Program and Dept of Parks, Wildlife and Heritage, Hobart & Dept of the Arts, Sport, the Environment and Territories, Canberra.
- \* Shapcott A, Brown M, Kirkpatrick JB, Reid JB (1995). Stand structure, reproductive activity and sex expression in Huon pine (*Lagarostrobos franklinii*). Hook f.) Quinn. *Journal of Biogeography* 22, (in press).



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## Farewell to ANPC

Mark Richardson  
National  
Coordinator

As of the end of December this year, I will be resigning as Curator, Living Collections at the Australian National Botanic Gardens and will be starting as Curator, Botany at the new Desert Wildlife Park and Botanic Gardens in Alice Springs. Because of this change, I will also be resigning as the National Co-ordinator of the ANPC.

The past four and a half years have been both enjoyable and fruitful. We have seen the successful establishment of the ANPC and its growth to become a recognised, though still small, national conservation organisation. The intent of the network has been to provide people around Australia with the opportunity to promote their own conservation work and to learn from the work of others. I believe it has succeeded in doing this and it has become noted for its ability to attract a very wide range of participants.

When the ANPC was started it was a conscious decision that we would not seek to develop a large membership from the start. Rather we started with a smaller 'core' membership and our numbers have increased by virtue of people learning of the ANPC from those core members and at conferences, and deciding that it is worthwhile to join. It has been very heartening to not only see the numbers slowly increasing but to see the range

of members broadening and to have a very low drop-out rate. I now think that it is time for the ANPC to promote itself much more actively and to seek to significantly increase the membership, particularly in some of the less traditional plant conservation areas. Recent memberships from organisations such as NSW's Pacific Power and the Australian Army encourage me in this view.

Since 1991 the ANPC has progressively changed. When it was first formed it was viewed as being mainly applicable to ex situ conservation. By the first national meeting the importance of integrating in situ and ex situ activities was well accepted and the ANPC was taking on a broader role. Over the past two years the membership has broadened yet further to include a range of land managers and the possibility of it extending to include New Zealand has been raised. In the coming two years, I suspect that the number of non-traditional members will continue to increase and I hope that the 1997 meeting will provide the ANPC with the opportunity to further bridge perceived differences between organisations that, cooperatively, can go a long way to assist in the conservation of Australia's flora. I also expect that the organisation and development of the regional groups will be well progressed and the guidelines being developed by the working groups will be completed. By then it will be time for the members of the ANPC to look at new projects to take the organisation to the end of the millenium (sounds impressive

doesn't it!).

Leaving the national office of the ANPC I would like to thank several people. The early establishment of the network was achieved with the support of both Lyn Meredith and Geoff Butler. Perhaps Lyn's most valuable contribution to the ANPC (apart from his sense of humour) was the large amount of editing that he did for the majority of the editions of *Danthonia* to date and the Proceedings of our first two conferences. Even when not at the National Office Lyn has continued to be a strong supporter. Geoff's knowledge of the Australian flora, his enthusiasm and commitment to conservation have been a very valuable asset. Without his assistance and energy the establishment of the ANPC and the running of our first conservation techniques course may not have happened.

I would also like to thank the other ANPC employees. Both Isobel Crawford and Joe Swartz were employed on projects in the early stages of development. Isobel started the National Endangered Flora Collection and Joe the development of an ANPC database. Much of Joe's work has become the basis of the ANPC recommendations for conservation databases.

Since the first national conference, Jeanette Mill has been the force behind the establishment of the regional groups. Jeanette has started and shepherded all of the groups, most of which are successfully entering their second year and starting to determine their future role. In addition, Jeanette has continued the development of the National Endangered Flora Collection and also



assisted in the organisation of the conservation course and our second national meeting. To take advantage of her experience within the ANPC, Jeanette will be the next National Co-ordinator.

Deborah Edwards has only recently started but as the new editor of *Danthonia* she will add considerably to what the National Office has to offer ANPC members.

I would also like to thank Iris Philp, Maureen Travers, Katrina Jensz and the staff of the ANBG for all their help over the past four years. Special thanks go to volunteers Kerry Blakston and particularly, Jeanne Trebeck who has, over the past two years, worked at the office ensuring that we know who our new members are and whether you need another reminder about your membership!

The initial ideas for the activities of the ANPC have come largely from members at the national meetings. However, to help develop these ideas, the National Office has had the able assistance of the Advisory Committee. The members of the Advisory Committee are, along with those of the three ANPC working groups, already very busy people and I am very appreciative of the time that they have so generously given. It should be noted that all of the members of the Advisory Committee attending meetings have demonstrated their own and their organisations' commitment to the ANPC by funding meeting attendance themselves.

While member's subscriptions have been important to fund the operation of the ANPC National Office the as-

sistance received from the Australian Nature Conservation Agency has been considerable both in terms of funding from the Endangered Species Program and in kind from the Australian National Botanic Gardens.

However, the success of the ANPC has largely depended on the support of the members, for which I give my sincere thanks.

Although I will be somewhat out of the ANPC action at my new home in Alice Springs, I will continue to be a keen supporter and hope to catch up with many of the people that I have come to know and respect at the next ANPC national meeting.

## A Message

*Brien Meilleur,  
President, Center for  
Plant Conservation,  
USA*

*Reprinted from Plant  
Conservation, a  
publication of the CPC  
St Louis*

CPC and ANPC were privileged to have been invited to co-sponsor the 4th International Botanic Gardens Conservation Congress held in Perth, Western Australia the week of September 25-29, 1995. Organized conjointly by Botanic Gardens Conservation International and Kings Park and Botanic Gardens, the plenary sessions, workshops, training sessions, and informal discussions that occurred

at the Congress collectively provided a wide-ranging picture of the challenges and successes of the ex situ plant conservation community worldwide.

As financially frustrating as the 1990s have been for many U.S. botanic gardens and conservation networks, it was sobering to see what the economic fragility of our times has wrought upon some botanical gardens in less developed countries. While the CPC Participating Institutions vigilantly strive to provide high quality conservation services to protect the rapidly degrading U.S. flora - for example, by trying to keep pace with the new tissue culture, genetic fingerprinting, and seed banking technologies that will enhance their conservation programs - many conservation-oriented botanical gardens elsewhere in the world struggle for their very survival.

In spite of the obstacles to plant conservation that were widely discussed at the Congress and are common in greater or lesser degrees to nearly all conservation-oriented gardens, what was so thrilling about this Congress was that its collective message was hardly a negative one. Rather, over and over we heard about the fundamental value of our conservation work in maintaining the biological health and integrity of our planet. We also heard about new and effective partnerships that are developing everywhere among botanical gardens, researchers, governments, land managers, educators, and other groups. In my view, the greatest message of this Congress - an exceedingly positive message of hope - was



transmitted again and again through the entrepreneurial spirit of the world's botanic garden conservation professionals as they described their efforts and successes. By so strongly emphasizing creative problem-solving, the 270 delegates from 40 countries - some facing constraints almost unimaginable to conservation gardens in western industrial democracies - showed me a side of plant conservation that I can only character-

### Newly Rediscovered Endangered Species: *Elaeocarpus* sp Minyon

Nan Nicholson,  
Landmark Ecological  
Services P/L, The  
Channon, NSW

**E**laeocarpus sp. Minyon (ROTAP code 2E) is listed as known only from the type specimen (Sheringham and Westaway 1995) but the species is in fact alive and moderately well.

It is a small to medium-sized tree occurring in rainforest in northern New South Wales. It has simple, alternate, ovate leaves with long petioles and distinctive pale leaf-backs with golden hairy veins. Older red leaves on or below the tree are a ready identification clue. The pendulous flowers are white, fringed as with most *Elaeocarpaceae*, and held on racemes 5-8 cm in length. Fruits are globular, about 2 cm diameter, blue, and with a

thin flesh around a stony endocarp which is clothed in dense fibres. The trunk is fluted with small buttresses and is smooth when young with vertical rows of lenticels which become corky with age. The blaze and heartwood are a deep orange-red.

The species occurs in warm temperate rainforest (simple notophyll vine forest) on moderately fertile soils with a mixture of basaltic and rhyolitic influences. Trees found so far occur at altitudes of around 400m, with an annual rainfall of about 2000mm. Species commonly occurring with *Elaeocarpus* sp. Minyon include Brush Box (*Lophostemon confertus*), Crabapple (*Schizomeria ovata*), Blackwood (*Acacia melanoxylon*), Mangobark (*Canarium australasicum*) and some more sclerophyllous species such as Flooded Gum (*Eucalyptus grandis*) and Forest Oak (*Allocasuarina torulosa*).

Dispersal of fruits is assumed to be effected by birds, flying foxes, small ground mammals and water, as with the similar Blue Quandong (*Elaeocarpus grandis*). Pollinators are not known.

Until two years ago *Elaeocarpus* sp. Minyon was known only from herbarium specimens collected in 1936 from the Minyon Falls area, north of Lismore, and was assumed to be extinct. However, in 1993 a small unusual tree was found on the banks of Rocky Creek Dam and a specimen was sent to Gordon Guymier at the Queensland Herbarium. He was excited to realise that the specimen was the 'lost' tree. The tree fruited in November 1993 and two nurseries were given some fruit to propagate. However, attempts were un-

successful as the seed was not viable. Some limited success was achieved with cuttings but it looked as if propagation of the plant was going to be uncertain if not impossible.

Then in October 1995 a new population of 30 plants was found on the eastern side of the dam, close to recently commenced logging operations. This population included seven fruiting adults, some up to 30m tall with trunk diameters up to 30cm, and 23 saplings and seedlings. The fruits from these trees appeared to have viable embryos. They have now been distributed to several nurseries and botanic gardens to establish whether seedlings can be propagated easily.

Further investigations in the same habitat type have since been carried out and about 120 plants have been found in Whian Whian State Forest. Recently, an entirely new population of about 100 plants was found 15km to the north in Nullum State Forest, within an area that has recently been heavily logged. Many of these plants have been seriously damaged, and some cut down. Small plants are likely to have been destroyed.

The greatest current threats are continued unsurveyed forestry operations. In addition, poaching of fruit and/or seedlings by individuals or commercial growers is likely to occur as the demand for rare plants increases. Further research is needed urgently in all potential habitat types to determine the extent of those areas in which it does or may occur.

#### Reference:

Sheringham P and Westaway J. 1995. Significant Vascular Plants of Upper North East NSW.



## Second National Meeting of the ANPC

Mark Richardson,  
National  
Coordinator

The 2nd National Meeting of the ANPC was held on 27 September, 1995 in Perth, in conjunction with the 4th International Botanic Gardens Conservation Congress. The meeting was attended by about 45 members from across Australia, as well as several international visitors interested in learning more about the ANPC.

Mark Richardson (ANPC National Office) gave a general report on the progress of the ANPC since our first national meeting in Hobart in 1993. Among the main things noted were the continued increase in the membership of the ANPC (now about 250), the pleasingly small 'drop-out' rate and the further broadening of the range of members represented. Jeanette Mill (ANPC National Office) then spoke on the regional groups that have been formed. Since 1993, regional meetings have been held in 5 States and Territories and four of those groups now have coordinators and programs for the next year.

Representatives from all of the ANPC working groups were present at the meeting and each group had completed a draft document by the time of the meeting. The speakers were: for the Germplasm group, Jock Morse

(Australian Tree Seed Centre), for the Information group, Stephen Harris (Tasmanian Parks and Wildlife Service, Department of Environment and Land Management) and for the Translocation group, Ken Atkins (Conservation and Land Management, WA). It was agreed at the meeting that the groups will have completed documents by the middle of next year.

Jeanette Mill also gave a brief presentation on the progress of the National Endangered Flora Collection and plans for the production of the second edition. The possibility of including the holdings of overseas organisations was raised and is to be explored further.

The current activities of the ANPC were then discussed in more detail to provide the resolutions that would determine the ANPC's main activities over the coming two years. The principle topics for discussion were regional networking, the development of national plant conservation guidelines, and training in plant conservation techniques. The outcome of these discussions is reflected in the resolutions (see opposite). Other topics discussed included the expansion of the ANPC to include New Zealand, the format of *Danthonia* and also future ANPC national meetings. The resolutions concerning all of these topics were further discussed the following day at a meeting of the ANPC Advisory Committee.

The main outcome of the 2nd National Meeting has been to give direction to the two main activities that were proposed at the Hobart Conference. These are the regional groups and the working groups. In the

time between Hobart and Perth both the projects have been well advanced and easily meet the objectives of the Hobart resolutions. However, there is a need to give those projects further guidance and in the case of the working groups, identify a time in which the documents will be completed. By the time of the next ANPC conference, it is planned that the working groups will have completed their tasks and the documents they have produced will have been ratified at a national level by the Australian and New Zealand Environment and Conservation Council.

It is proposed that the 3rd ANPC National Meeting will be a conference held in July 1997 in north-east NSW.





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## ANPC Resolutions

2nd National  
Meeting, 27  
September 1995,  
Perth, Western  
Australia

The meeting recommended:

- that the development of the ANPC regional groups be continued. The major roles for the groups were identified as:

- \* providing an effective conduit for information between members, and

- \* promoting the ANPC and its activities;

- that each regional group appoint a co-ordinator;

- that the conservation guidelines/standards being produced by the three working groups be completed by 30 June, 1996;

- that an attempt be made to have the guidelines/standards ratified by the Australian and New Zealand Environment and Conservation Council (ANZECC) by the 3rd National ANPC meeting;

- that the availability of the draft of the germplasm and translocation guidelines be advertised in the December 1995 copy of *Danthonia* along with a synopsis of each set of guidelines;

- that the availability of the first draft of the information guidelines be advertised with the September edition of *Danthonia*;

- that ANPC request BGCI to identify any collections of Australian threatened species held outside of Australia for

inclusion in the National Endangered Flora Collection;

- that the inclusion of representation from endangered communities in the National Endangered Flora Collection be explored;

- that the Conservation Techniques Course was worthwhile and that consideration be given to it being run again;

- that the framework of the conservation course be written up for application by regional groups;

- that regional groups should collate information on local courses relevant to plant conservation for dissemination through *Danthonia*;

- that *Danthonia* maintains its current format but be reviewed again at the next national meeting;

- that the extension of the Network to include New Zealand be considered with the possibility of renaming the organisation the Australasian Network for Plant Conservation or similar to reflect any change. This recommendation is in view of the recommendation to seek ratification of ANPC documents by ANZECC made at the 1st National Conference;

- that future ANPC national meetings be held independently of other meetings so as to cater for its now very broad membership.

## New Electronic Address

The US Centre for Plant Conservation (CPC) now has a World Wide Web Home Page.

The address for the page is <http://www.mobot.org/CPC/welcome.html>.

The page has basic information about the CPC and its Participating Institutions, programs and publications, and lists of taxa in the collection, etc. From the home page you can also access other home pages such as that of the Missouri Botanical Garden, and the database of the Germplasm Resources Information Network (GRIN). Eventually a link will go to the Botanic Gardens Conservation International (BGCI) also. The page will enable greater access for conservationists and the public to rare plant information and programs.

CPC also has a new e-mail address for general queries and correspondence, which is [cpc@mobot.mobot.org](mailto:cpc@mobot.mobot.org).



## Letter to the Editor

### NSW Endangered Species Bill

As with most legislation heavily laced with stiff penalties and fines, this is another that highlights our society's inability or unwillingness to solve its problems in a way that would obviate such legislation.

One may well doubt the far sightedness of those that can see a stop or reversal of the endangered species situation by means of negatively geared legislation that has the usual stick but no carrot.

The report by Daniel Dasey in the Sun Herald, October 22, 1995 gives no indication of anything associated with this legislation that could promote a decrease in threatened species nor does it encourage possession or multiplication of threatened species by anyone in certain areas to negate any possible future legal complications.

The onus of proof in this legislation is reportedly loaded against anyone accused. However, it is not clear how anyone stands with the law that is found in possession of endangered species. Neither does there seem to be any provision to obtain endangered species for the purposes of making them less endangered by means of propagating or breeding.

The matter needs clarification from the highest level of origination, as some ANPC members not members of any Government Department may well see themselves severely restricted or frozen out when it comes to ex situ, commercial applications or situations that may impact on landowners.

I therefore call on the ANPC to take a leading role in having the matter clarified so that members may continue to play a positive role in keeping with its original objectives, widespread membership and world wide affiliations.

We can use more encouragement and help to reverse and minimise our impact on endangered species, not less.

This I believe.

Egon Demuth



## New Network - PlantNet

In March 1996 a new network will be officially launched at a conference at the University of Oxford in Britain. It's called PlantNet: the Plant Collections Network of Britain and Ireland. One of its main aims is to be a forum for exchanging ideas and information for people working with plants in the British Isles. The initiators believe there is much to gain from sharing information from people at all levels of involvement. The PlantNet newsletter has already had two editions published to disseminate information, and a draft constitution has been drawn up and circulated for comment.

In addition there will be regular meetings, and in fact several have already happened, covering such topics as commercialisation and working with volunteers. Membership subscriptions will be introduced after March 1996.

The PlantNet Working Party includes Professor Rob Marrs, Chair; Mr Timothy Walker, Convenor; Mrs Judith Cheney, Newsletter editor; and Dr Peter Wyse Jackson of Botanic Gardens Conservation International.

The conference in March is called 'Plant Collections: Management and Future Use'. For further information, contact Mr Timothy Walker, PlantNet Convenor, University of Oxford Botanic Garden, Rose Lane, Oxford OX1 4AX UK. Tel/fax 01865 276920.



## Report on the Roadside Management Workshop, Braidwood, 9 November 1995.

*Nicki Taws,  
NSW Roadside  
Environment Committee.*

The workshop was organised by the NSW Roadside Environment Committee (REC) and aimed to highlight the need for planned management of roadsides. It also provided an opportunity for the REC to raise awareness of its activities and the support which is available for roadside managers to undertake roadside management planning.

Braidwood provided an appropriate location for the workshop as the centre of the Tallaganda Shire which is about to embark on the roadside management planning process. Sixty-five people from a variety of government, private and community organisations attended.

Mark Sheahan, Chairman of the REC, provided an introduction to roadside management planning. The area of roadsides in NSW is roughly equivalent to the area of land in National Parks and is therefore a significant land resource. Many roadsides have important ecological values but are also used for a variety of other activities, such as carriage of electricity, gas and communication utilities, grazing of stock, storing of road materials, strategic lines for fire con-

trol, and rest and recreation by motorists. This wide variety of uses of the roadside has the potential to create conflict between the users.

Bill Bott of the Local Government Association provided a personal account of conflict which arose between the Corowa Shire Council and residents over use of the roadside which was damaging native vegetation. Part of the solution was provided by the undertaking of a roadside vegetation assessment in the Shire to determine areas of high, medium and low conservation value.

A similar situation has arisen in the Tallaganda Shire where some residents are concerned about conservation of native vegetation on roadsides, while increasing traffic volumes have created the need for wider clearance along roadsides. Royce White, Director of works for the Tallaganda Shire, outlined the Shire's roadside project which has recently been granted funding under the National Landcare Program. The project aims to identify and assess the significance of roadside vegetation along 500km of Council roads.

The NSW Rural Lands Protection Board (RLPB) is the manager of significant areas of roadside gazetted as Traveling Stock Routes and Reserves (TSRs). Sandy Prell, of the RLPB Executive Council, outlined the role of TSRs in providing for the movement of stock, and relief in times of drought or fire. Alison Morgan, the RLPB Environmental Officer, discussed her current project involving assessment of native vegetation over a large area of TSRs in the central west. This project will

eventually produce management guidelines for the conservation of native vegetation and protection of significant areas on the TSRs in the study area.

The workshop also heard presentations on soil management on roadsides, the role of the NSW Roads and Traffic Authority in roadside management, and the conservation value of roadsides on the Southern Tablelands, with an emphasis on endangered plant species and communities known to occur on roadsides and TSRs.

A bus took participants to lunch beside the Shoalhaven River, and then along a number of roads to view a range of roadside management issues in the Shire. This provided an opportunity for many informal discussions between the participants, which is often when the valuable exchange of information and ideas (the networking!) takes place.





## Remnant Vegetation Research And Development Workshop

*Taken with permission from Intersect (news from the Land and Water Resources Research and Development Corporation - LWRRDC), Issue 10, November 1995.*

The socioeconomic, policy and related aspects of managing bushland, or remnant vegetation, were given special attention at a recent joint LWRRDC and Australian Nature Conservation Agency (ANCA) workshop in Melbourne. This was part of the National Rehabilitation, Management and Conservation of Remnant Vegetation R&D Program managed by LWRRDC and ANCA and funding several large projects. These are to identify the factors influencing regeneration and health of remnant vegetation, and to develop improved, practical methods of bushland management. The program is also examining the economic and social factors influencing attitudes to, and management of, remnant vegetation.

Workshop participants were asked to discuss the value landholders and rural communities place on remnant vegetation and its ecological significance, as well as the barriers and constraints to active management of remnants and

ways to overcome them. The result was that the workshop:

- generated ideas on ways to improve policies and programs aimed at promoting and supporting on-ground management of vegetation;

- identified knowledge gaps about social and economic aspects of managing remnants, and R&D priorities to address them; and

- improved methods for the two-way interaction between landholder and community needs and biological and socioeconomic research.

- ANCA and LWRRDC will use the results on socioeconomic aspects to commission new remnant vegetation R&D within the national remnant vegetation research program.

- The results of the workshop are being prepared for publication as a joint Occasional Paper. This will be available early in 1996 from the shopfront of the Commonwealth Department of Primary Industry and Energy. The shopfront has a freecall number: (008) 020157. For more information about the program, contact Dr Phil Price on (06) 257 3379.

## Obituary

Dr Jim Willis, world-renowned botanist and much-respected and liked man, died suddenly on the 10th November 1995. He was 85, and had apparently been unwell for some time following a mild stroke, yet in September he opened the biennial

conference of the Association of Societies for Growing Australian Plants with a clear and humorous talk which I enjoyed. I was told by someone sitting next to me that his lectures and talks always attracted a good audience. He apparently had a huge amount of enthusiasm and was very interested in everything and also very interesting, with an immense memory, and could talk for hours in front of an audience and keep them rapt.

Jim Willis worked in the National Herbarium in Victoria and was Assistant Government Botanist for some years. He often wrote for the newsletter of the Victorian Field Naturalists as well as participating in many of the group's activities. He was known as a great man with a very good overview of many aspects of natural history, with in-depth knowledge in quite a few areas to the extent that he knew many of the latest names for mosses, fungi and the *Helichrysum* splits. Undoubtedly, he was up-to-date with a great many plant groups. He knew a lot of grasses. He also had some knowledge in geology and fauna.

So we have lost a well-rounded, interesting and well-known man, who has left botany, natural history and a lot of people undoubtedly much enriched.

Editor.



## Members' Activities

### FOG field day

Rainer Rehwinkel

As part of the Friends of Grasslands spring 1995 field program, a lively band of grassland supporters turned up to a typically cold and windy Bungendore, NSW, to take part in a Grasslands Conservation Ratings Workshop. The workshop, held on Saturday 21 October, was hosted by Rainer Rehwinkel, Monaro Grasslands Project Officer with the NSW NPWS Queanbeyan District Office. Also lending their valuable botanical expertise were private consultants Alison Rowell, Isobel Crawford and Peter Barrer, SGAP's Jo Walker and ACT Parks and Conservation's grassland expert Mark Dunford. The day was well supported by Friends of Grassland participants.

The aim of the day was to familiarise participants with the conservation rating system which was initiated by Stuwe in Victoria in the 1980's and further developed by ACT Parks and Conservation in the 1990's. This system has been applied to all significant grasslands in the ACT, and is currently being implemented by the NSW NPWS in the grasslands of the Monaro and areas east of Canberra. Another aim was to initiate Canberra grassland enthusiasts to some very interesting sites across the border in NSW.

Briefly, the conservation rating system, which is based

on subjective assessment, takes into consideration the quality of a site based upon its native species diversity and the state of disturbance to that site as assessed by the exotic weed diversity. The outcome of such assessment is a five tiered rating score, with a site judged to have a rating of 1 considered to have national significance, scaling down to a site with a rating of 5 having very little conservation value. An additional layer of information is added with the application of a T rating, which signifies that the site provides habitat for a threatened or otherwise significant species (either plant or animal, vertebrate or invertebrate).

Despite the bitterly blowing easterly, the first site visited, the Turallo Range grassland site on the Hoskingtown Road south of Bungendore, was enough to gladden the heart of the most cynical grassland expert. This grassland, a former travelling stock reserve, which as stories go, has had some heavy but intermittent grazing in its past life, was ablaze with an incredible diversity of grassland forbs. Notable amongst these were the carpets of white daisies of *Calotis anthemoides*, a tiny greenhood, *Pterostylis* sp. and flights of the aptly named golden moth orchids, *Diuris lanceolata*, which were fairly flapping in the stiff breeze. The site showed promise for things to come in the rosettes of blue devils, *Eryngium rostratum*, tight little buds of hairy

buttons *Leptorhynchus squamatus*, the silvery sheen of golden buttons *Chrysocephalum apiculatum*, and the succulent leaves of *Velleia paradoxa*, a species rarely recorded in lowland grassland situations. We all agreed that this site should be given a very high conservation rating. Jo Walker made the comment that the grassland reminded her of Western Australia!

By contrast, an active travelling stock reserve across the road from this site was given a lower rating. This was because, despite it being as species rich (in terms of absolute number of species counted) the overall diversity (in terms of frequency of occurrence of the species present) was much lower than the Turallo Range grassland. This site too, had notably greater weed cover. Both of these Hoskingtown Road sites retain a very good cover of kangaroo grass, *Themeda triandra* and wallaby grasses *Danthonia* spp.

The third site visited on the day, a patch of grassland at the Brooks Hill reserve, gave participants a chance to see some different grassland types (ie ■ grassy woodland and a grassland dominated by low growing woody shrubs). Similarly, this site provided an opportunity to apply the conservation rating system, because it demonstrated a position somewhere between the first two in terms of native plant diversity and weediness.

For more information about the rating system, and the Project, contact Rainer Rehwinkel, Monaro Grassland Project Officer, Queanbeyan District Office, NSW NPWS, 6 Rutledge St Queanbeyan NSW, 2620 or ring (06) 2980303.



## Species Profiles

### Rare Orchids of the Perth Region

Andrew Batty, Kings  
Park and Botanic  
Garden, Perth, WA

With support from Western Power (Western Australia's electricity company) and the facilities at Kings Park and Botanic Garden, an integrated conservation program is underway to improve the conservation status of some rare orchid species. The Glossy-leafed Hammer Orchid (*Drakaea elastica*), Grand Spider Orchid (*Caladenia huegelii*), the Blue Babe in the Cradle Orchid (*Epiblema grandiflorum* ssp. *cyanea*), Purdies Donkey Orchid (*Diuris purdiei*), Swamp Donkey Orchid (*Diuris micrantha*) and the Cinnamon Sun Orchid (*Thelymitra dedmaniarum*) are all typical examples of orchids being threatened in the Perth Metropolitan area. Unless specific attempts are made to try and turn the tide for these orchids they too will be lost from our flora. Orchids are vulnerable because they have complex and specific associations with other organisms such as mycorrhizal fungi. Small changes to a habitat can have devastating effects on a population. Major risks include the ever-increasing sprawl of major cities.

*Drakaea elastica* Lindley  
(Glossy-leafed Hammer Or-

chid). This orchid is easily recognised by its shiny, light green, heart-shaped leaf and solitary flower and prominent insectiform labellum. This labellum plays a critical part in attracting male thynnid wasps for pollination. By producing both pheromone and visual cues the unsuspecting male is lured to the orchid. Such a complicated and specific pollination strategy makes the orchid vulnerable not only from direct habitat destruction but also habitat degradation affecting the life cycle of the pollinator and mycorrhizal associates.

The orchid is confined to several populations on deep sandy soil in Banksia woodland and is found in association with *Kunzea ericifolia* in low-lying situations adjoining winter-wet swamps. Flowering occurs from October to November.

As is the case for many terrestrial orchids there is a basic understanding of fungal associations but little progress has been made developing a successful propagation and conservation program. The best form of conservation at this stage is to maintain existing habitats through appropriate management while undertaking strategic ex situ research.

*Diuris purdiei* Diels (Purdies Donkey Orchid). This orchid has laterally presented flowers, up to 8 on a single spike, which are prominently yellow with red-brown markings at the base of the labellum and on the undersurface

of the petals. Leaves are 5-10 spirally twisted and up to 10 cm long.

The species flowers from September to October and usually only after summer fires. The orchid is restricted to winter-wet swamps on the coastal plain between Perth and Yarloop (south of Perth).

This species tends to be confined to private and shire land in the Metropolitan region. These populations are highly vulnerable due to clearing for urban development, weeds and disease. The populations to the south occur in nature reserves and are thus highly valuable for the future of the species. One of the main management requirements essential for the survival of the species is to restrict burns to outside flowering and vegetative phases, that is July-November. Other populations may exist in unburnt sites. Suitable habitat needs to be monitored on an opportunistic basis following summer burns. Management of existing populations in reserves is essential for the orchid's survival. Those sites on private land need to be protected where possible.

*Epiblema grandiflorum* R. Br. var. *cyanea* Dixon. (Baby Blue Orchid). This sky blue variety is an attractive orchid in the endemic genus of *Epiblema*. The general appearance of the flowers is similar to that of sun orchids with major differences arising in the appearance of the column and labellum. Flowers show no response to changes in temperature as seen in sun orchids. Flowering occurs from November to December. The orchid inhabits wet peaty swamps amongst paperbarks and dense sedges. During the



initial stages of growth the orchid's single leaf is often submerged in water with water levels receding by the time of flowering.

The main population of this rare orchid is known from a single winter-wet swamp on the outskirts of Perth. The species was under threat from housing development but prompt action has enabled protection of the swamp area containing the orchid. The future of this orchid is perilous unless management of current sites is maintained. Its long-term survival would be improved if introductions to more secure sites can be achieved.

Work on these orchids and the others in the endangered plant rescue program are part of a three year PhD research project addressing conservation issues facing these orchids including propagation methods, population genetics and reintroduction issues. Western Power is providing financial backing for the project and although only 6 months old, good progress has already been made in securing ex situ germplasm.

#### References

Hoffman, N. and Brown, A. (1992). *Orchids of south-western Australia*. 2nd Ed. University of Western Australia Press.

## Special Events at Myall Park

Taken from the article  
by Carol McCormack in  
the *Friends of Myall Park*  
*Botanic Garden Newsletter*  
Vol 4 No 3

On Saturday 5th August, Myall Park had a grand opening of its new gallery. For the occasion Dorothy Gordon's flower paintings and landscapes were hung. People also wandered the garden and the walking trail. At 2pm, the official proceedings began, with secretary Dorinda Schwenneesen as MC.

Betty McKenzie's book *One Man's Dream*, was launched by Dr Bob Johnson, Director of the Queensland Herbarium 1976-90, and associated with these gardens for 40 years. The book is about 96-year-old Dave Gordon, and the lifetime of hard work he put into developing Myall Park.

Mrs Lorna Murray, President of the Society for Growing Australian Plants (SGAP), Qld Region, presented Dave with a special Australian Plants Award. Dave's knowledge and expertise regarding Australian flora have been recognised by the scientific and horticultural communities both in Australia and internationally. He was a foundation member of the SGAP, kept extensive records in his herbarium, donated land to the Qld Government which became the Erringibba National Park, and promoted the well known plant, *Grevillea* 'Robyn Gordon', which turned

up as a natural hybrid in Myall Park and was the first cultivar registered by the Australian Cultivar Registration Authority (ACRA) in 1973.

The opening address was given by Professor Henry Nix head of the Centre for Resource and Environmental Studies at the Australian National University, and Chairman of the Advisory Committee for the ANPC. Professor Nix was a founder of the SGAP Canberra Region and of the Canberra Ornithologists' Group, and thus came to know Dave and Dorothy and Myall Park. He supports regional botanic gardens, and said that Myall Park is in the middle of the Brigalow Zone. Professor Nix also pointed out the close connection between art and science and commented on the garden and gallery as examples of this. He urged people to join the Friends of Myall Park Botanic Garden.

Next, Nita Lester, chairman, gave a history of the gallery development, pointed out special features such as the stained glass windows, and thanked architects, builders, the Tara Shire Council and all the volunteers. She said that Dave gets a lot of pleasure and satisfaction from sitting with Dorothy's paintings.

Jean Harslett, Dorothy Gordon's sister, then opened the complex formally, Nita Lester thanked all, and some informal tributes were given to speakers and others, followed by afternoon tea. Dave Gordon was delighted with the day and must feel a lot of pride and pleasure at the achievements of himself and all others involved and the recognition he and the Garden now have.



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## Book Launch

**Australia's Most Threatened Ecosystems: the southeastern lowland native grasslands.** 1995.

Kirkpatrick J, McDougall K and Hyde M. Surrey Beatty & Sons in association with The World Wide Fund For Nature Australia.

This important book was launched by Federal Minister for the Environment, Senator John Faulkner, at Parliament House, Canberra, on 13th December. It is part of the outcome of a project funded by a grant from the National Estate Grants Program (NEGP) administered by the Australian Heritage Commission (AHC) to the World Wide Fund For Nature Australia (WWF). The latter employed a team of specialists, including Jamie Kirkpatrick and Keith McDougall, to document lowland native grasses throughout southeastern Australia.

Sharon Sullivan, Executive Director of the AHC, gave a quick introduction, quipping that often to get people interested in grasslands you have to refer to them as "short forests"! She spoke briefly about the NEGP grant and then introduced Senator Faulkner.

Senator Faulkner pointed out that "the ecosystems that contain the most plant species and plant communities threatened with extinction are native grasslands - not our tropical rainforests or our eucalypt forests." They include grasses,

sedges and flowering herbs. In southeastern Australia they have been reduced from about 2 million ha to less than 10,000ha, but are worth protecting because they "contribute significantly to Australia's biodiversity....provide habitat...form the vital understorey of healthy woodland and forest ecosystems...provide resistance against fire and drought...stabilise soil on riverbanks and steep slopes." They are also of economic value as they need less water and upkeep, and have a potential for horticulture and tourism.

These grasslands now only occur in small patches and are thus more vulnerable. Senator Faulkner congratulated the NSW Government on including some specific grasslands for protection under the State Environmental Planning Policy 46. Non-government organisations are now working to protect and appropriately manage these remnants. The Commonwealth has various programs in place, such as the Grasslands Ecology and the Save the Bush Programs, and has made grasslands a priority for its Endangered Species Program. The AHC is placing all significant identified grasslands on the Register of the National Estate. The book is being sent to councils in southeastern Australia to inform their land managers and environmental officers.

In launching the book Senator Faulkner congratulated the WWF and the authors, stating that the book "will help to demonstrate to the wider community the value of grasslands, their plight and the ways people can protect them."

In response Jamie Kirk-

patrick thanked the Minister, the Federal Government and the governments of the ACT, NSW and Victoria for progress in grassland conservation in Australia. There is still a long way to go but the gravity of the situation has been realised. He hopes this will percolate to local government eventually. A lot are working for grasslands so he's optimistic. He'd like to see the same criteria developed as exist to protect forests.

Professor Kirkpatrick mentioned the hard work done by people such as Tim Barlow and Keith McDougall, and described them as a great bunch of people. From the work came a technical report on which the book was based: it gives more of an overview. He suggested not locking up remnants, because often they're there as a result of a disturbance history and still need some disturbance. He also encouraged people to keep up the good work.

David Butcher from WWF told us that the book brought the complex scientific results of about 10 years of research into a 'popular' form most can understand. Recommendations from the research are going on into projects now. He thanked all involved: governments, authors and the publishers for taking on the book.

Sharon Sullivan thanked all for coming and we adjourned for morning tea, buying copies of the book and networking.

Editor.





### Other Publications of Interest

**Threatened Plant Species Management in the Arid Pastoral Zone of South Australia.** 1995. Davies, R. A report prepared for the Pastoral Management Branch, Department of Environment and Natural Resources, South Australia. Available from Natural Resources Information Centre, GPO Box 1047, Adelaide, SA 5001, for \$8.00 plus postage.

**Conservation Australia.** No 1. 1995. Australian Nature Conservation Agency. Canberra. Promoting the diverse nature conservation ideas, activities and expertise of the Agency, with themes including biodiversity, the involvement of indigenous peoples and sustainability.

**Sub-tropical Australian native gardens: How to select, plant and nurture native trees, shrubs, flowers, ferns, palms and orchids in your sub-tropical garden on the North Coast of NSW.** 1994. 2nd Edition, 1995 with corrections. Edited by Calder Chaffey. Far North Coast District Group, SGAP NSW Ltd. GPO Box 4083, Goonellabah, NSW. 2480. We hope to have a review of this book for the next edition of *Danthonia*.

**A Handbook for Botanic Gardens on the Reintroduction of Plants to the Wild.** 1995. Compiled by John Akeroyd and Peter Wyse Jackson. Botanic Gardens Conservation International, in association with IUCN Species Survival Commission (Reintroductions Specialist Group). Surrey, UK.

### **Exhibition: 'It's a Rare Thing Too' by Helen Leitch.**

On display at the Australian National Botanic Gardens Visitors Information Centre from **April 8 to May 26 1996**. This is a Botanic Gardens of Adelaide exhibition. It's whimsical art with a range of Australian animals dressed in flower parts, getting across the message of rare and endangered plants. There'll be more information next year.

### Conferences

### **Second Conference: Network of Regional Botanic Gardens Tropical and Subtropical Zones**

**February 1996:** the dates are likely to be 23rd-25th. It will be held in South-East Qld, on the Sunshine Coast. The provisional items are: election of office bearers; members' progress reports possibly with videos/slides; a key note speaker and others; data about funding/assistance programs; a workshop following on from the Perth IBGCC meeting with specific reference to RBG networks; resolutions about the direction of the Network; etc. To find out more, ring NRBG Chairman Lawrie Smith on (07) 3857 1445, or write to PO Box 313 Maroochydore Qld 4558.

### **Horticulture on the Edge**

**15-16 March 1996** at the Hyatt Kingsgate Hotel, Sydney. Presented by the Australian Institute of Horticulture. Can Australian horticulture answer the challenges of the 21st century? The conference will look at such issues as reclaiming and rehabilitating contaminated urban sites; water supply and conservation; integrated pest management; sustainable domestic landscape design; and many others. Keynote speakers include



Robyn Williams, AM; Dr Robert Spooner-Hart, Senior Lecturer in plant protection at the University of Western Sydney - Hawkesbury and consultant on biological control; and others include Robin Buchanan, bushland regenerator and TAFE lecturer. Details can be obtained from Hildegard Wilkinson, AIH Administrator, 15 Bowen Cres. West Gosford, NSW 2250. Phone (043) 25 4088; Fax (043) 24 2563.

### **1996 Ramsar Conference.**

**19-27 March 1996**, Brisbane Convention and Exhibition Centre. 6th Conference of Contracting Parties to the Convention on Wetlands of International Importance: the Ramsar Convention. The Australian Nature Conservation Agency (ANCA) are the lead organisers, with the Qld Department of Environment and Heritage, Brisbane City Council and the Australian Littoral Society (representing the Australian Wetlands Alliance). At the Conference members will review progress, decide new priorities, set the agenda for the next three years, discuss the latest research and management techniques, and debate and adopt a strategic plan to guide the Convention into the next century. There will also be three days of technical workshops with a focus on Oceania. For more information on the Conference, Ramsar and/or wetlands, contact the National Wetlands Program, Australian Nature Conservation Agency, GPO Box 636, Canberra ACT 2601. Tel. (06) 250 0385; fax (06) 250 0384.

### **The Role of Technology in Parks and Recreation**

**April 29-30 1996.** Hilton International Hotel, Adelaide. Royal Australian Institute of Parks and Recreation (RAIPR). Information, communication and plant and equipment technology; application of technology in customer service; the role of technology in best practice. For further information contact RAIPR National Seminar, c/o Les Clayton, 54 Bellaview Ave, Flagstaff Hill SA 5159, or c/o Jackie Thompson, Adelaide Events, PO Box 800, Glenelg SA 5045, phone (08) 296 9610, fax (08) 296 8188.

#### **Courses**

### **Wild Grasses of Victoria**

Run by Graeme Lorimer, Ph.D. and covering identification, ecology, propagation and management. The book being used now is the Flora of Victoria Vol. 2, and extensive notes will be provided. No previous botanical knowledge is required. Graeme runs these courses in November and December (possibly January in high country) as this is when grasses are flowering and are easier to identify. The cost for this season is \$110/\$80 concession. Graeme can arrange to run the course in rural areas also on an as-need basis. For further information ring Graeme on (03) 9728 5841.

### **Graduate Program in Environmental Law**

Faculty of Law, ANU, Canberra. Two coursework streams: one for students with a law degree and one for those with other degrees. Graduate Diploma in Legal Studies; Graduate Diploma in Law; Master of Law; Master of Legal Studies. For application forms apply to: The Registrar, The Australian National University, Canberra, ACT 0200. Or phone the Course Administrator, Faculty of Law, on (06) 249 0510.

### **Save the Bush Habitat Conservation and Management**

National Trust of Australia (Victoria). Units in Land Management Philosophy; Bushland - the Ideal; Impacts on Bushland; Techniques for Managing Bushland. Previous field trips have gone to places such as Point Nepean National Park; Yarra Bend Trust Park and Langwarrin Flora and Fauna Reserve. The course also has a context of exploring decision-making and planning processes. A wide range of experienced people are used as teachers, and the course gives a great chance to meet them and others working in the same field. It's 15 weeks part-time, and classes are held in Collingwood. For further information phone the National Trust (Victoria) on (03) 9654 4711.



# The Royal Botanic Gardens, Cranbourne: A New Approach

Lesley Hammersley,  
Coordinator, Royal  
Botanic Gardens,  
Cranbourne

The Royal Botanic Gardens, Cranbourne (RBGC) provides a unique concept for botanic gardens by combining natural bushland, designed gardens, recreational spaces and a centre for scientific learning and study. It is administered by the Royal Botanic Gardens Board. The 350 ha Gardens are located 55 km south-east of Melbourne, on the outskirts of the city of Cranbourne.

## The Concept

There are four key components in the long term vision for the RBGC: an Australian Garden, Botanic Collection, Woodland Recreation Zone and Conservation Zone.

A masterplan for the Australian Garden has been finalised. This garden will explore the influence of Australian plants on contemporary Australian life - including our spiritual connection with the Australian flora, its medicinal benefits, the relationship of Australian plants to the environment and the influence of Australian flora on music, literature and design.

Broad scale concepts have been developed for the Botanic Collection and Woodland Recreation Zone. The Botanic Collection will contrast the flora of varied ecosystems and

explore the ecological relationships between plant and animal communities. The variation in ecosystems will range from wetlands and Red Gum woodlands to temperate rainforest. In the Woodland Recreation Zone, visitors will enjoy picnics and leisure activities in an open woodland setting with an opportunity to explore environmental themes in new and innovative ways.

Already realised, the Conservation Zone is a 240 ha remnant of indigenous vegetation. The area is of state conservation significance and comprises intact stands of *Lepidospermum myrsinoides* heathland, wet heathland, sedge swampland and grassy woodland. Reference areas have been established in each of these plant communities.

## Flora and Fauna Conservation

At the recent International Botanic Gardens Conservation Congress in Perth, Western Australia, the importance of an ecological perspective to the design and management of botanic gardens was emphasised. It is this emphasis that the RBGC is working toward. The ethos behind the RBGC is to develop not only an appreciation of Australia's native flora, but its relationship with fauna, and the interdependent, connected nature of our environment.

In this regard, research at the RBGC is ecologically based. The site has seen a number of projects including factors affecting plant distribution and community composition, reproductive strategies of flora and fauna, pollination mechanisms, palynological analyses of swamp sediments and studies of the

habitat requirements of the Southern Brown Bandicoot and Swamp Rat.

Fire is an integral component of the heathland vegetation of the site and a current focus for research. The effect of fire on plant species richness and abundance, seedling recruitment after fire, post-fire regeneration strategies of plants, and the effect of fire on fauna abundance and recolonisation are aspects of fire ecology research and monitoring currently being undertaken by the Gardens.

Other research in consultation with Melbourne University includes a study of the effects of antagonistic bacteria on *Phytophthora* infection.

The scope for research is enormous and future foci of interest may include ex situ and in situ conservation of rare plants, the conservation biology of small populations and study of plant-invertebrate interactions.

## Plants, Animals and People

The increased profile of the RBGC through 1995 has seen a developing interest by visitors in the relationship between people, plants and animals. What pollinates this plant? Why do you need to burn heathland? Will this isolated population survive in the long term? What strategies do these plants and animals have for surviving in a dry environment? The questions indicate that the community is interested in environmental management, the ecology of plants and animals and the importance of island refuges such as the RBGC.

The RBGC and other conservation organisations have a responsibility, especially in



this age of technological and computer wizardry, to cultivate a renewed interest in nature. The approach needs to address more than the parts/species, for in a deep ecological sense, 'the whole is more than the sum of the parts'. The approach must be holistic and promote the concept that biodiversity is intricately bound to ecological relationships and interactions. Plans for the RBGC coupled with scientific research will advance the realization of this new approach.

## Workshop

### The Conservation of Biodiversity on Roadsides - The Protocol System?

9 February 1996: University of Queensland. AUSTROADS workshop organised by Queensland Transport. AUSTROADS is the association of road transport and traffic authorities in Australasia. Through this organisation, ARRB Transport Research (ARRB TR) wants to develop, through consultation, ideas to conserve biological diversity on roadsides, and is considering a National Protocol System for coordinating the work needed. The workshop is the first in a series to review and develop this System.

For more information, contact Quentin Farmar-Bowers, ARRB Transport Research Ltd, phone (03) 9881 1629; fax (03) 9887 8104.

## Regional Groups

### Sydney Region

Report on the Meeting  
at the Hunter Region  
Botanic Garden,  
October 14 1995

By Terry Tame

About fourteen members attended the first scheduled meeting of the Sydney Region at HRBG near Raymond Terrace. Following a morning tea and welcome by the Chair of the Board of Directors of HRBG, Jack Shield, and some house-keeping matters, the guest speaker, Robbie Economos, was introduced.

Robbie is the Environmental Planner with the Lake Macquarie City Council and she spoke about the Council's approach to the conservation of rare species in its area, in particular the species *Tetratheca juncea*. She outlined the problems the Council faced in trying to afford protection to sites, as well as the options which can be pursued and which may lead to some successful outcomes. Many questions flowed from this discussion.

Although the weather was earlier unsettled, a late morning tour of the Gardens was led by Terry Tame with assistance from Heather Clarke. The group looked at the successes and failures of endangered plants in cultivation at HRBG which provided opportunity for much discussion by

members. At the end of lunch, the continuing discussion had to be terminated so that the meeting could be transferred to Kooragang Island (also known as Ash Island), in the Hunter River estuary.

On a rather windy but sunny afternoon, Maria Matthes from the NPWS Endangered Species Unit and Michaela Birrell from the Kooragang Island Restoration Scheme led the group across the marshy expanses of the northern part of the island. Here we examined the early stages of the rehabilitation of the once extensive rainforest which has been, over time, reduced to some small remnants. Among these survive a few plants of the endangered climber *Cynanchum elegans*. The tour of the restoration scheme generated a lot of discussion which continued for some time after the group returned to the vehicles.

There was also a meeting held at Minnamurra, south of Sydney, on December 9th, and there'll be a report in the next edition.

The next meeting is planned to take place at Taronga Zoo on Saturday February 10th. For information contact Ian Jackson or Sean Lillis on (02) 978 4790. Notices will be sent out closer to the day.

For further information about the group, please contact Group Coordinator, Tracey Armstrong, at Mount Annan Botanic Garden on (046) 462 477.



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## Victorian Region

*Lesley Hammersley, Royal  
Botanic Gardens,  
Cranbourne*

A meeting of the Victorian Region of ANPC was held at the Royal Botanic Gardens, Cranbourne on Saturday 9th September 1995. Approximately 16 people attended and were given a general introduction to the site and development plans for the future.

Mark Jenkins, the Gardens' ecologist, gave a general overview of the conservation aim and future scope of the Gardens for in situ and ex situ conservation of rare and threatened plants. Strategies for the management of the 200 ha remnant of indigenous bushland in keeping with the aims of the Royal Botanic Gardens were discussed. An outline of work being undertaken for the ecological fire management for flora and faunal habitat conservation on site was also given, along with a run down on the scientific reference areas which have been established to monitor vegetation changes over time.

After this short information session indoors, the meeting adjourned for a walk around some of the Bushland Conservation Zone, to enable members to observe the vegetation on site and conservation strategies in place. It was generally agreed that this had been a worthwhile program to enhance members' understanding of RBG Cranbourne's focus on conservation.

Note: for further information about the Royal Botanic Gardens, Cranbourne, please refer to an article printed on page 19 of this edition.

The next meeting will be in February 1996, at the Healesville Sanctuary, with the date to be confirmed. Notices will be sent out closer to the day.

## Sub Tropical Region

Report of the meeting  
7/10/95

*by Jan Tilden*

A meeting of the Sub Tropical Group of the Australian Network for Plant Conservation was held at the Barrung Landcare Centre in Maleny on Saturday 7th October. (As well as housing a Landcare group, this centre also boasts a nursery specialising in the propagation of local native rainforest plants for rehabilitation work in the Blackall Range area). Seventeen people attended the meeting, including a contingent of five from Mullumbimby, putting some local non-attenders to shame! Guest speaker was botanist and plant ecologist, Mike Olsen, for the Griffith University, who talked about the ecology of vegetation remnants and methods of rehabilitation.

His talk was followed by an excellent share lunch, then discussion about future direc-

tions of the group. Jan Tilden, who chaired the meeting, raised the issue of whether we wanted to take a more action oriented approach and focus on a particular issue of common interest. Several issues were suggested, including rainforest rehabilitation in the sub-tropics and working with local government.

The feeling of the meeting was that information exchange within the region - the function currently being fulfilled by the network - was a good focus and that there was no particular need to be more action oriented (although some thought this was a good idea).

Klaus Querengasser offered to take on the role of coordinating the Sub Tropical Group and undertook to organise the next meeting in early February. This meeting will be held in Brisbane at the Botanic Gardens (Mt Coot-tha) with a view to getting maximum attendance from throughout the region. It will be a planning meeting for 1996, with a guest speaker.

Editor: Klaus contacted Ross McKinnon at the Gardens and the 10th February is suitable. This would make the meeting just after the Conservation Outside Reserves Conference being held between 5-8 Feb. Notices will be sent out closer to the date to confirm.



## SENSW and ACT Regional Meeting

4th November 1995  
Australian National  
Botanic Gardens  
Theatrette  
Deborah Edwards

About 30 people heard 2 presentations, with about 20 staying for the planning meeting held afterwards. Bill Logan, Wildlife Research Unit, ACT Parks and Conservation, spoke about the new ACT Endangered Species Legislation, passed in 1994 and developed to conserve ACT biodiversity generally and lead to increased formal recognition and protection of threatened species and communities.

Roger Good, Senior Scientific Officer, NSW National Parks and Wildlife Service, talked about the NSW Endangered Fauna (Interim Protection) Act. This was to expire in November, but had a 2 month extension. Flora are to be included in the new Act. Roger also spoke about SEPP 46, the aim of which is to prevent inappropriate native vegetation clearance, not all clearing. The Department of Land and Water Conservation (LWC) and the NPWS assess and approve plans. If someone fails to comply there can be considerable fines. He raised some questions including: What are "understory plants"? What's a grassland? What exemptions exist? How to police the policy?

### The Meeting

1. Regional Groups:  
Mark Richardson spoke

about the Draft Plan for ANPC Regional Groups produced following the ANPC 2nd National Meeting in Perth, including ideas for the role of group coordinator, and the role of the National Office in Regional Groups.

#### 2. Group Coordinator:

John Wilkes said he'd fill the position and as no-one contested this he is now the coordinator and will organise the meetings, reporting in *Danthonia*, etc. For his contact number see below.

#### 3. Program:

The group decided it would meet roughly 3-4 monthly, and move around the region. Many good ideas were aired, eg. to first identify and contact other key interest groups and people with different views, interests and knowledge from us. They could get local speakers and facilitate. We would also network through the groups and spread the word on their activities.

Suggestions for meeting places included: Eurobodalla Botanic Gardens; Merimbula; Nowra; Cootamundra; Temora; Albury Gardens; people's paddocks; Tumut's Grevillea site; workshop on SEPP 46; Bredbo Landcare sites. From these, a rough timetable was worked out, with the first meeting to be on the coast at Eurobodalla in about late February-early March. John Wilkes and others to meet on 15th November, 12.30 at ANBG to organise the timetable and publication in the December *Danthonia*: see following.

Co-ordinator: John Wilkes.  
You can contact John by phone and fax on (06) 238 2490.

## SE NSW/ACT Region 1996 Program

**March 9-10:** Field trip to Eurobodalla Native Botanic Gardens. Organiser: John Knight - (044) 71 3348.

**May 18-19:** Meeting in Wagga Wagga on 18th with groups from South West Slopes and Riverina areas, to discuss the role of ANPC and issues relevant to the region. Field trips planned for the 19th. Organiser: Roger Good - (06) 298 9718.

**July/August:** Meeting at Wollongong Botanic Garden in conjunction with the Sydney Region group. This will be an issues session. Organiser: Anders Bofeldt - (042) 27 7468.

**October:** Meeting at Dalgety to discuss conservation issues with local groups, plus a field trip to a cold-climate nursery which provides plants for restoration projects. Details to be announced next year.

**December 7:** Seminar in Canberra on progress under the Commonwealth's Endangered Species Protection Act 1992, the ACT Nature Conservation (Amendment) Act 1994 and relevant NSW legislation. This will be another issues session. Details are to be announced next year.



## THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION MEMBERSHIP LIST

The date (1994/5/6) indicates that the member has joined or renewed for that year. Addresses and names of contact persons are available from the National Office.

### Corporate Members

ACT Parks & Conservation Service (1995)  
Adelaide Botanic Gardens (1996)  
Australian Army (1995)  
Australian Tree Seed Centre, CSIRO (1995)  
Albury Botanic Gardens NSW (1995)  
Alcoa of Australia Ltd WA (1995)  
Australian National Botanic Gardens (1995)  
Australian Nature Conservation Agency (1995)  
Barcaldine Shire Council Qld (1995)  
Brisbane Botanic Gardens (1995)  
Centre for Plant Biodiversity Research ACT (1995)  
City of Frankston Vic (1995)  
Coffs Harbour City Council NSW (1995)  
Conservation & Land Management WA (1995)  
CSIRO Division of Plant Industry (1995)  
Environment and Land Management Tas (1995)  
Eurobodalla Botanic Garden NSW (1995)  
Flecker Botanic Gardens Qld (1996)  
Forestry Tasmania (1995)  
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Gladstone Tondoon Botanic Gardens Qld (1996)  
Kings Park and Botanic Gardens WA (1995)  
Kuringai Municipal Council NSW (1994)  
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North Forest Products Tas (1995)  
NSW-NPWS Northern Region (1995)  
Pacific Power NSW (1995)  
Parks and Wildlife Commission of the NT (1995)  
Queensland Herbarium (1995)  
Randwick City Council NSW (1995)  
RGC Mineral Sands WA (1995)  
Royal Botanic Gardens Melbourne Vic (1995)  
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Standing Committee on Forestry (1995)  
Townsville City Council Qld (1995)  
Wollongong Botanic Gardens NSW (1995)  
Zoological Parks Board of NSW (1995)  
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### International Associates

Botanic Gardens Conservation Intl, UK  
Botanical Research Institute of Texas  
Canadian Botanical Conservation Network  
Center for Plant Conservation, USA  
Honiara Botanic Gardens, Solomon Islands  
Kebun Raya Indonesia  
Missouri Botanical Gardens Library  
National Botanical Institute, South Africa  
PlantNet Britain & Ireland  
Rare Plant Consortium, USA  
Society for Ecological Restoration, USA  
Suva Botanical Gardens, Fiji  
Vailima Botanic Gardens, Western Samoa

### Other Organisations

Assn. of Soc. for Growing Aust Plants (1995)  
Australian Arid Land Botanic Garden SA (1995)  
Australian Assn. of Bush Regenerators (1995)  
Aust. Trust for Conservation Volunteers (1995)  
Brunswick Valley Heritage Park NSW (1995)  
Burrendong Arboretum Trust NSW (1994)  
Deakin Uni. Rusden Campus Library Vic (1995)  
Friends of Grasslands (1995)  
Friends of North Coast Regional BG NSW (1995)  
Greening Australia (ACT) (1995)  
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Illawarra Zoological Society NSW (1995)  
Macksville High School NSW (1995)  
Myall Park Botanic Garden Qld (1995)  
National Threatened Species Network (1995)  
Olive Pink Flora Reserve NT (1995)  
Pangarinda Arboretum SA (1995)  
Rainforest Seed Collective (1995)  
Royal Geographical Society of Qld (1995)  
SGAP Blue Mtns Group (1995)  
SGAP - Canberra Region Inc (1995)  
SGAP - Dryandra Study Group (1995)  
SGAP - East Hills Group (1995)  
SGAP - Grampians Group Vic (1995)  
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SGAP - Ipswich Branch Qld (1995)  
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SGAP - North West Tas (1995)  
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